



Controlling Damping-Off in Vegetable Seedlings

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Damping-off frequently attacks young seedlings of almost all kinds of vegetables. The seedlings, just after they have emerged from the soil, are easily killed by fungus organisms that are likely to be present in any garden soil. Seedlings that die or fall over are said to "damp-off." The destructiveness of this disease depends upon the amount of fungus in the soil and on the environmental conditions. An abundance of moisture in the soil, high humidity, and cloudy days are especially favorable for the development of damping-off.

In the greenhouse or seedbed damping-off can be almost completely eliminated by partially sterilizing the soil with heat or strong disinfectants, such as Formalin. A good job of soil sterilization requires special equipment, and is often impossible. Fortunately there are simpler remedies for damping-off when it does appear. This circular describes some of these simpler remedies.

What To Do First

Just as soon as damping-off is observed, stop watering for awhile. Allow the soil to dry some around the plants. If the seedlings are in flats or in cold frames, give them as much air and light as possible. The drier the soil, the more light, and the better the air drainage, the less the danger that the damping-off will continue. Of course, the soil around the seedlings cannot be allowed to dry completely or the seedlings will die. Watering with a chemical that will control damping-off provides both water for the plants and chemicals for protection against the disease. Chemicals that may be used and methods of applying are listed below.

Chemical Treatments

Method 1: Copper drenches.

These materials, such as "C.O.C.S.," Yellow Cuprocide, or Copper "A", are listed first because they can be safely and effectively applied to many kinds of vegetables.

Mix 1 ounce of the copper dust with 3 gallons of water. Stir thoroughly. The dust is not soluble in water but is merely suspended in it. Stir hard and frequently while applying. Gently drench the plants and soil where the damping-off is occurring. The suspension may be applied with a cup or with a sprinkling can after first removing the spray cap from the spout. Drench the plants and the ground around them.

Note: This circular supersedes Station Circular of Information 305, an earlier report on the same subject.

This treatment can be used on cucumbers, melons, beets, spinach, carrots, peppers, lettuce, and tomatoes.

Do not use this treatment on cabbage, cauliflower, broccoli, or kale.

Method 2: Semesan drench.

Dissolve 1 ounce of Semesan in 4 gallons of water. Drench the soil in spots where damping-off is occurring. Try to prevent the liquid from wetting the tops of the unaffected plants. Be certain to use SEMESAN and not Semesan Junior or Semesan Bel.

This treatment is advised for cabbage, cauliflower, broccoli, and kale. Do not use Semesan drench on tomatoes.

Method 3: Potassium permanganate drench.

The cheap grade of Potassium Permanganate as used for chicken houses, etc., can be used to stop damping-off. Dissolve one ounce of the chemical in 4 gallons of water. Drench the seedlings and then about 5 days later drench them again. This treatment is mild and not as effective as the above.

This treatment seems usable on almost any kind of seedling. May be especially useful on tomatoes and peppers.

Comments

The Red Copper Oxide and the Semesan treatments are the simplest and easiest to use.

Do not try to stop damping-off with acids, compounds containing chlorine, or with wood ashes.